and is well positioned to provide assistance during pandemics and prevention efforts.

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H1N1 experience at the Institute for Infectious Diseases Emilio Ribas, Sao Paulo, Brazil. The role of a travel clinic as sentinel for emerging diseases

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Background: According to WHO figures, by November 8 more than 503,536 cases of pandemic influenza had been confirmed and more than 6,260 deaths had been reported. Most cases came from the Americas which also presented the highest number of deaths. South America was severely affected by the transmission of H1N1 and big efforts made to control its dissemination and assist severe cases. Before July 16, when sustained transmission of pandemic influenza H1N1 was recognized in Brazil, most cases were travel related. By late November, 22,565 cases had been reported in the country with a total of 1,528 deaths. The Institute for Infectious Diseases Emilio Ribas (IIDER), a reference hospital for infectious diseases in Sao Paulo city, was responsible for reporting a significant number of the entire state's cases. As H1N1 was initially related to travelers, a number of patients were referred to the clinic to be followed.

Methods: To evaluate the role of the travel clinic during the first months of the pandemic, we analyzed 53 report care forms, broken down by gender, age, symptoms, history of travel, diagnosis and treatment.

Results: Of the 53 patients evaluated, 21 were male (39.6%) and 32 female (60.4%). The mean age was 38.7 and the most common symptoms were cough (90.5%), fever (83%), headache (79%), coryza (64.1%), myalgia (73.5), shortness of breath (49%) and diarrhea (16.9%). Oseltamivir was prescribed to 35 (66%) of all patients. H1N1 was confirmed in 18 patients and Sazonal Influenza was isolated in 6 patients. Out of 17 patients who had traveled internationally, only 3 tested positive for H1N1 and they had come from Argentina (2) and Mexico (1).

Conclusion: Since the begining of the Inluenza pandemic, IIDER had reported a total of 1,924 flu-like cases by October 1, 2009. Because H1N1 transmission was initially associated with travelers, travel clinics were able to provide first warning. In our report, we include the first case of H1N1 infection in Sao Paulo city, a patient returning from Mexico who presented symptoms 2 days before the WHO global alert, which demonstrates the high sensitivity of post-travel evaluations in a pandemic scenario.

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is a mass immunization program for pandemic (H1N1) 2009 good value for money? Early evidence from the Canadian experience

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Background: Since the H1N1 vaccine approval on October 21, 2009 in Canada, the largest vaccination program in the country's history has been rolled out. This work contributes informed estimates to the current debate about the pandemic (H1N1) 2009 mass immunization program's economic merits.

Methods: We performed a cost-utility analysis of the (H1N1) 2009 mass immunization program in Ontario, Canada's most populous province. We utilize a previously developed model to simulate the current pandemic influenza (H1N1) outbreak in Ontario to compare no intervention to mass immunization of 10% of the population per week, starting 40 days into the pandemic and lasting until 30% vaccine coverage is reached. Data for health care resource use (office visits, emergency department visits, hospitalizations, intensive care unit admissions, use of extracorporeal membrane oxygenation (ECMO)) and deaths were based on pandemic (H1N1) surveillance data in Ontario and Australia, and Ontario administrative data. Program and other costs were drawn from Ontario sources (Ontario Health Insurance Plan (OHIP), Ontario Case Costing Initiative (OCCI)). Utility weights were obtained from the literature and annualized. Years of life lost were calculated using average life expectancy adjusted for quality of life. Main outcome measures were quality adjusted life-years (QALYs), costs in 2009 Canadian dollars, and cost per QALY gained.

Results: Ontario's H1N1 immunization program is estimated to cost $118 million ($30 per person vaccinated). Immunizing 30% of the population prevents approximately 1.4 million cases, 850 hospitalizations and 35 deaths. This reduces healthcare cost due to illness from $154 million to $77 million and is associated with 24,864 additional quality-adjusted life-years for the population. The incremental cost-effectiveness ratio (ICER) is $1,645 per QALY gained. Results are sensitive to immunization program effectiveness and cost. In all sensitivity analyses the ICER remains well below established thresholds, which determine the cost-effectiveness of a program.

Conclusion: The pandemic (H1N1) 2009 mass immunization program in Ontario is highly costeffective under conservative assumptions on health care resource use, costs, and mortality. This conclusion is supported by extensive sensitivity analyses and is consistent with the economic attractiveness demonstrated for seasonal influenza programs.

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